The effect of administration of oral single dose vitamine D on outcome pediatric pneumonia in Boali hospital of Ardabil

Abstract

Introduction

Today, many studies indicate an important role for vitamin D that among these it can be pointed to its role in preventing cancer, cardiovascular disease, asthma and allergies as well as bacterial and viral infectious disease. Some studies have confirmed this problem that the use of vitamin D with more than the usual dose could be effective in preventing or incidence of some respiratory infections in children. Hence, this study aimed to evaluate the effect of single-dose administration of vitamin D in the progression of respiratory infectious disease in children hospitalized in Bu-Ali hospital of Ardabil and determination of its relationship with blood levels of active form of vitamin D.

Material and Methods

This study is a clinical trial. In this study, 80 patients with the age of 6 months to 6 years who hospitalized with bacterial pneumonia in Bu-Ali hospital were enrolled and randomly divided into two forty groups. The first group received a single oral dose of 100,000 IU of vitamin D and the second group as a placebo who were selected randomly, received sweet almond oil. For both groups was administrated antibiotic which was the main treatment of pneumonia while were given a single dose of vitamin D to former and the placebo to later. All prescribed medications coded and the donor did not know the nature of them. Vitamin D level before and 10 days after the drug administration was measured. Finally, all the data were analyzed using statistical software.

Results

In this study 33 children in drug group and 31 children in placebo were studied. The average age of these patients was 2.53±2.18 years and 54.5% of drug group and 64.5% of placebo were boy. The average duration of hospitalization in drug group was 4.60 days and for placebo was 4.77 days ($p=0.633$). Vitamin D level at the beginning in drug group was 25.50 and in placebo was 35.12 ($p=0.176$) and 10 days after receiving treatments was 82.38 and 28.26 for drug and placebo groups respectively($p<0.001$). Also 37.5% of all children had a sever vitamin D deficiency. After evaluating recurrence in patients was observed that only one patient in the placebo relapsed pneumonia ($p=0.298$).

Conclusion

The results of this study indicated that vitamin D failed to reduce hospitalization duration statistically.

Keywords: Vitamin D, Pneumonia, Buali hospital